

REMARKS

The claims have not been amended. Accordingly, claims 1-18 are currently pending in the application, of which claims 1 and 15 are independent claims.

Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. § 103

Claims 1, 2, 5, and 15-18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,898,417 issued to Kanno, *et al.* ("Kanno") in view of U.S. Patent No. 6,265,833 issued to Kim, *et al.* ("Kim"). Applicants respectfully traverse this rejection for at least the following reasons.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the reference or references, when combined, must disclose or suggest all of the claim limitations. The motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent applicant's disclosure. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness with regard to independent claims 1 and 15 at least because there is no suggestion or motivation to combine the reference teachings.

The Office Action's proposed modification of Kanno based on Kim's teachings would significantly change Kanno's basic principle of operation. Specifically, Kanno teaches a liquid crystal display device, which is a voltage-driven device. For example, Kanno's information electrode drive IC of Figure 9 includes "an output circuit to generate liquid crystal drive

waveforms of the levels of three values (V_3 , V_4 , VC).” (col. 11, lines 14-16, col. 13, lines 39-65; Fig. 9). It is a well-known basic operating principle of liquid crystal display devices that they form “an image by using a transmission light amount characteristic according to an effective value of a driving voltage” (col. 1, lines 20-22). Therefore, modifying Kanno into a current-driven device “would require a substantial reconstruction and redesign of the elements shown in [Kanno] as well as a change in the basic principle under which [Kanno’s] construction was designed to operate.” MPEP § 2143.01.VI (citation omitted). However, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” Id. (citation omitted). Since modifying Kanno into a current-driven liquid crystal display device would change Kanno’s principle of operation, Applicants respectfully submit that there is no suggestion or motivation to combine Kanno and Kim in the manner suggested by the Office Action.

Additionally, a person of ordinary skill in art confronted with the problem of trying to improve power consumption and brightness in an image display apparatus including light emitting elements would not look to the combination of Kanno and Kim, which relate to a voltage-driven LCD device and a self-emitting display device, respectfully. This is particularly so when, as noted on page 3 of Applicants’ specification, increasing the drive voltage of an organic EL element shortens the organic EL element’s lifespan and necessitates a voltage adjusting circuit for every scan electrode or data electrode, thereby complicating circuit structure and control of the display. (Specification page 3, line 17 – page 4, line 3). Hence, in view of the problems associated with increasing the drive voltage of an organic EL element, a skilled artisan seeking to improve brightness of an image display apparatus including light emitting elements would not consult Kanno, or combine Kanno with Kim, as the Office Action suggests because Kanno relates to a voltage-driven LCD device.

Furthermore, even if the reference teachings are combined, Applicants respectfully submit that the combination fails to disclose all limitations of claims 1 and 15. Specifically, claim 1 recites *inter alia*:

a control circuit which selects one of scanning modes as an operation mode in response to a mode switching signal, and outputs a data signal and a scan control signal based on an image signal to be displayed and said selected scanning mode, wherein a current of said data signal is based on said selected scanning mode, said scanning modes including a mode where at least two scanning electrodes are simultaneously driven (emphasis added)

As a preliminary matter, the Office Action fails to establish a prima facie case because it does not accurately examine the control circuit limitation. Specifically, in rejecting claim 1, the Office Action states on page 5, lines 4-8:

Further, the limitation "wherein a current of said data signal is based on said selected mode" is taught by Kim's driving current as determined by a driving mode selected, since the current requirement in an light emitting display is dependent on the number of scan lines of light emitting elements being simultaneously driven. (emphasis added)

However, the applicable limitation of claim 1 requires "wherein a current of said data signal is based on said selected scanning mode." Furthermore, after inaccurately quoting this limitation of claim 1, the Office Action then appears to rely upon Applicants' disclosure to support the inaccurate rejection despite the fact that the motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent applicant's disclosure. See *in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Specifically, Applicants' specification at pages 22-23 and 33 supports the Office Action's conclusion noted in the quote above that "the current requirement in an light emitting display is dependent on the number of scan lines of light emitting elements being simultaneously driven." However, Kim does not teach or suggest such features.

Applicants also respectfully submit that neither Kanno nor Kim, alone or in combination, disclose or suggest at least the actual limitation of "wherein a current of said data signal is based on said selected scanning mode." In fact, Kim's driving modes, which apply optimal driving current and voltage, "are set in accordance with ... whether or not the display device is in use and the outer environment." (col. 6, lines 55-57 and 60-65). Hence, Kim does not disclose or suggest "wherein a current of said data signal is based on said selected scanning mode."

Furthermore, with regard to claims 1 and 15, Applicants respectfully submit that neither Kanno nor Kim, alone or in combination, disclose or suggest "a control circuit which selects one of scanning modes as an operation mode ... and outputs a data signal and a scan control signal based on an image signal to be displayed and said selected scanning mode." Rather, in Kanno, a data signal is applied to a data driver and a scan signal is applied to a scan driver from a control circuit, and the scan signal is converted and output according to mode from the scan driver.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1 and 15. Claims 2, 5, and 16-18 depend from claim 1 and are allowable at least for this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1 and 15, and all the claims that depend therefrom, are allowable.

Claims 3-14 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kanno and Kim, as applied to claim 1 or 15 above, and further in view of EP Application Publication No. 0617399 of Kuwata, *et al.* ("Kuwata"). Applicants respectfully traverse this rejection for at least the following reasons.

Claims 3-14 depend from claim 1, which is an allowable claim, and Kuwata does not cure the deficiencies of Kanno and Kim noted above with regard to claim 1. Hence, claims 3-14 are also allowable.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1-18. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claims 1 and 15, and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

/hae-chan park/

Hae-Chan Park
Reg. No. 50,114

Date: September 20, 2006

CUSTOMER NO. 58027
H.C. Park & Associates, PLC
8500 Leesburg Pike
Suite 7500
Vienna, VA 22182
Tel: 703-288-5105
Fax: 703-288-5139
HCP/RTS/tmk